DOCUMENT RESUME

ED 420 644 SP 038 004

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TITLE Student Perceptions of Academic Performance Vary across Subgroups of College Students.
PUB DATE 1998-05-21
NOTE 16p.; Paper presented at the Annual Meeting of the American Psychological Society (10th, Washington, DC, May 21-24, 1998).
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Academic Ability; *Academic Achievement; *College Students; *High Achievement; Higher Education; *Low Achievement; Preservice Teacher Education; *Student Attitudes
IDENTIFIERS *Effort

ABSTRACT

This study explored how college students, enrolled in an educational psychology course, perceived effort, ability, and success/failure outcomes. Students completed a set of open-ended questions that explored their thoughts about effort, ability, and success/failure. The initial classroom examination, taken during the third week of the semester, served as the criterion variable. Researchers analyzed the open-ended questions based on word count, content analysis, and four developmental levels of using effort and ability to explain outcomes. Results highlighted several common words describing academic effort, including time, putting forth, energy, trying, doing, working, attempting, hard work, using, trying harder, action, and exerting. In searching for possible distinctive perceptions held by high and low exam performers, results found differences in three areas of perceptions: time, measurability, and goal/task. Both groups used the word time, though all high performers combined it with work or energy while conceptualizing effort. Low performers using the word time used more vague connections of time with thought and understanding. High performers were more likely to see effort as a measurable event, included a reference to goal or task when describing effort, and were more likely to recognize the complex relationship between ability and effort and perceive ability as a capacity for achievement. Low performers were more likely to not mention ability. High performers used more words to discuss these issues. (SM)

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ED 420 644

Student Perceptions of Academic Performance Vary Across Subgroups of College Students

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Poster session presented at the 10th Annual Convention of the American Psychological Society meeting, Washington, D.C., May 21-24, 1998.

Running head: Perceptions of Performance

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Abstract

This study employed quantitative and qualitative methods to explore how college students perceived effort, ability, and success/failure outcomes. High classroom achievers held more sophisticated views of academic effort and better understood the complexities of how ability and effort contribute to success or failure than low classroom achievers.

Student Perceptions of Academic Performance Vary Across Subgroups of College Students

The use of effort and ability as variables to help explain performance has been an essential element of many theoretical perspectives (e.g., achievement motivation, attribution theory, self efficacy, and self-regulated learning). The motivational literature is replete with references to the constructs of effort and ability as if it can be assumed that the same universal, clear-cut meaning of such variables exist in the minds of students, teachers, theoreticians, researchers, and readers.

Winne (1995) proposed that "researchers need to consider more broadly the cues a learner uses to judge effort" (p.225) and epistemological beliefs about effort. Weiner (1994) reminded us of his particular usage of the term ability when he suggested that "ability (construed here as akin to aptitude and not a learned skill) is not controlled by the individual--one cannot willfully become able or volitionally change one's ability" (p. 165). Student perceptions of effort and ability become crucial in research studies, theoretical viewpoints, and the classroom.

The present study was designed to explore student perceptions of academic effort and the relationships between effort and ability when the outcomes are success and failure. This investigation differs sharply from most other studies in that individual differences in the above mentioned perceptions of effort and ability will also be examined separately according to actual high and low academic exam achievement levels earned by

the subjects.

Method

Participants

Participants were 89 college undergraduate students enrolled in three different sections of an educational psychology course offered by a Department of Psychology at a small, state university campus in rural, up-state New York. The sample consisted of primarily female subjects (72 %). All students received extra credit toward a class examination for their participation. Approximately 65% of students were planning to become K-12 classroom teachers.

All data related to student perceptions of effort were collected during the second week of the semester. Data collection was purposefully targeted for the time in the semester prior to covering the textbook topic of motivation that included direct references to theoretical perspectives and research findings concerning effort and ability and well before the administration of the first classroom examination.

Materials

A set of open-ended (free response) questions were formulated to explore student thoughts about effort, ability, and success/failure. The open-ended questions are listed below:

Introduction:

> Think about the concept of "effort." Most people believe that effort is a very important explanatory factor in academic achievement. Whether a student experiences success or failure, some form of effort is normally demonstrated.

Question #1
Define and describe the concept of effort. Try to think of as many different types of effort that you can and describe each type.

Question #2
How is effort related to ability when the outcome is success?

Question #3
How is effort related to ability when the outcome is failure?

Academic Performance Measures

The initial classroom examination taken during the third week of the semester served as the criterion variable. The exam included 75 multiple-choice questions (four possible options per questions) and students were to select the "one best" answer to each question.

Data Analysis

Since this study generated more qualitative than quantitative data, descriptive tools were used to infer findings at this early stage of the data analysis as identified by grounded theory (Strauss & Corbin, 1990). The open-ended questions were analyzed based upon the following techniques: word count, content analysis, and the four developmental levels of using effort and ability to explain outcomes (Nicholls, 1978; 1990). Although all 89 subjects were used to obtain information related to the global perception of academic effort, the primary focus of this report constituted an in-depth analysis of possible distinctions of effort and ability perceptions for the highest exam performers (scores of 92-98%) and lowest exam performers (scores of 54-72%).

Results

Within the total sample of 89 subjects, several common words were employed to describe academic effort. The factor of "time" was used by 23 different subjects to convey the fact that effort required an allocation of time. Other action-oriented words were used to express student thoughts about effort such as: "putting forth" (22 subjects), "energy" (19 subjects), "trying" (15 subjects), "doing" (14 subjects), "working" (12 subjects), "attempting" (7 subjects), "hard work" (6 subjects), "using" (6 subjects), "trying harder" (4 subjects), "action" (5 subjects), and "exerting" (4 subjects). Other less frequently used terms included: "dedication," "investment," "persistence," "thought," "measurable," "perseverance," "patience," "allocation," "ambition," "determination," "concentration," "attention," and "conscious/unconscious."

More specific analyses were then conducted to search for possible distinctive perceptions held by high exam performers (n=10) and low exam performers (n=10). Differences were found while reading the narratives in following three areas of perceptions: time, measurability, and goal/task.

Although the use of the word "time" was found almost as frequently among the two groups of exam performers, every high performer (n=5) that used time combined it with work or energy while conceptualizing effort. Low exam performers who employed the term "time" used more vague connections of time with "thought" and "understanding." Only one low exam performer

linked time and energy, and another such performer used the term "time" without any other action references.

High exam performers were more likely to see effort as a measurable event (n=9) and included such elements in their descriptions. Far fewer low exam performers (n=5) included measurable aspects in their descriptions of effort.

Every high exam performer included a reference to goal or task in their description of effort. Somewhat fewer low exam performers employed a reference to a goal or task (n=8). Half of these low performing subjects (n=4) used the rather vague term "something" instead of the reference to goal or task.

Some of the statements used by subjects to describe their conceptualizations of effort are provided in Table 1. The differences represented are subtle but identifiable.

Table 2 offers a sample of subjects' perceptions on "how effort is related to ability when the outcome is success or failure." Student responses were analyzed according to the level of distinctions of ability and effort in achievement situations provided in Figure 1 (Nicholls, 1978; 1990). An overview of the levels represented by each subject in the two groups is provided in Table 3 where Level 4 is the most sophisticated viewpoint. High exam performers were more likely to recognize the complex relationship between ability and effort and perceive ability as a capacity for achievement than low exam performers. Low exam performers were also more likely to not even mention ability (n=4) compared to high exam performers (n=1). Only one low exam

performer could describe the joint and interactive relationship between ability and effort as a cause of performance.

A word count was conducted on responses provided for all three questions and the profile can be seen in Table 4. Although the t test of statistical significance of differences between means was found to be non-significant, the high performers clearly used more words to talk about these issues.

Discussion

The data provided in this report support the notion that high exam performers harbor quantitative and qualitative differences in their views of effort and how effort and ability interact to result in achievement outcomes as compared to low exam performers. These results are somewhat surprising and may seem to be at odds with previous research findings and theoretical arguments found in the literature.

Nicholls (1978) offered data to support the theoretical position that these four levels of ability/effort distinctions "appear to satisfy the criteria of an invariant sequence of qualitatively different, hierarchically integrated, levels of reasoning" (p. 805). Nicholls also suggested that the level of reasoning needed for level 4 would coincide with formal operational thought and he offered empirical data that suggests that 75% of 13-year-olds were able to employ adult-like reasoning concerning how ability and effort contribute to achievement outcomes.

The work of Nicholls would suggest that the vast majority of

college students should be functioning at Level 4 (the highest level). This is clearly inconsistent with the findings of the present study. A careful examination of the sample that Nicholls studied shows that "subjects were eight boys and eight girls of each age, 5 through 13 years, from schools in clearly economically advantaged areas of Wellington, New Zealand" (Nicholls, 1978, p. 802).

Nicholls clearly saw formal operational thought as a necessity for responses represented by Level 4. How many college students are functioning at the formal operational level? Woolfolk (1995) stated that "Piaget himself suggested that most adults may be able to use formal-operational thought in only a few areas, areas where they have the greatest experience or interest" (p. 41).

This research calls into question the assumption that nearly all college-level students should have already formulated adult-like conceptions of ability/effort issues such as seeing ability as capacity, recognizing that ability and effort can covary, and ability acts as a limitation and can constrain effort. Further research is necessary to support the finding that different conceptualizations of ability and effort lead to distinctively different performance levels. Such findings could have a considerable positive influence on improving learning at the post-secondary level.

References

Nicholls, J. G. (1978). The development of the concepts of effort and ability, perception of academic achievement, and the understanding that difficult tasks requir ore ability. Child Development, 49, 800-814.

Nicholls, J. G. (1990). What is ability and why are we mindful of it? A developmental perspective. In R. Sternberg & J. Kolligan (Eds.), Competence considered (pp.11-40) New Haven, CT: Yale University Press.

Strauss, A. L., & Corbin, J. M. (1990). Basics of qualitative research: Grounded theory procedures and techniques. Newbury Park, CA: SAGE Publications.

Weiner, B. (1994). Ability versus effort revisited: The moral determinants of achievement evaluation and achievement as a moral system. Educational Psychologist, 29(3), 163-172.

Winne, P. H. (1995). Self-regulation is ubiquitous but its forms vary with knowledge. Educational Psychologist, 30(4), 223-228.

Woolfolk, A. K. (1995). Educational psychology (6th ed.). Boston: Allyn and Bacon.

Table 1: Free Response Definitions of Academic Effort Based on Achievement Distinctions

High Exam Achievers: (n=10: Exam Averages 92%-98%)

"Effort is the degree to which one strives for desired results and outcomes."
"Effort is doing everything you can to help yourself succeed at a certain task." "...attempting to do your best."
"Effort is the amount of mental and/or physical energy spent on a specific task that allows the expected outcome to be reached."
"Effort is the amount of energy and time that a person puts into an activity."
"Effort is the amount of personal work you put into something."
"Effort is a conscious allocation of any amount of energy in order to increase the probability of success of the goal."
"Effort is the thought and energy output for the purpose of reaching a specific goal."
"Effort is the amount of time and work a person is willing to put into completing a task."
"Effort is using energy to reach some end result."
"Effort is the amount of time, work, and concentration a person invests in a certain activity based upon his/her desire to complete the task successfully."

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Low Exam Performers: (n=10: Exam Averages 54%-73%)

"Effort is pushing yourself to achieve something."
"Effort is trying to do something whether it be something they have done before or have never done before. It's doing something to the best of their abilities."
"Effort is the amount of time someone puts into a certain task, as well as how well of a job they do."
"Effort and motivation go hand in hand. If somecne is motivated to do something, they will put forth the effort to succeed."
"Effort is the amount of time and understanding you put into something."
"Effort is the amount of time, patience, and heart you put into everything you do everyday you live."
"Effort is the amount of time, energy or both that you put forth to complete a task."
"Effort is the amount of time spent or force exerted on a certain task or job."
"Effort is making an honest attempt at doing whatever job/assignment you are working on. Effort requires taking time, thinking about what you are going to do."
(Note: One subject in this category did not follow the instructions by defining effort. This subject only gave examples of volunteering an answer, helping out in the classroom, etc.)

Table 2: Free Response Conceptualization of How Ability and Effort Contribute to Success and Failure

High Performers: (n=10: Exam Averages 92%-98%)
"Effort and ability are separate concepts which may lead to positive outcomes. The sum of its parts is greater than all the parts. Regardless of ability, a poor effort will almost always produce poor results."
"Effort can increase your ability obviously when you succeed. When the outcome is failure, you may realize that there wasn't enough effort put into that certain task. Or maybe the effort should have been focused on another aspect of the task. Ability is a direct factor in effort. It wouldn't really matter how hard you tried to lift a 200 pound object, if you only had the strength to lift 50 pounds."
"Effort and ability go hand in hand: Effort + Ability = Success. If you have a lot of ability, then you will need less effort in order to achieve the task. Sometimes even a maximum effort can't overcome a deficiency in ability."
"Effort is related to ability when the outcome is success in that there is a positive correlation between the two."
"Some people believe that effort can get you very far in life, but I think that ability needs to be there as well. When the outcome is failure, some people assume that if effort is put in, then the ability isn't there."

Low Exam Performers: (n=10: Exam Averages 54%-73%)
"The outcome of success caused students to do these activities more. If the outcome is failure, it discourages students from trying these tasks again...so they will never have the ability."
"Usually, it is the maximum ability used for success. Usually effort is low when the outcome is failure."
"Effort is greatly related to ability. If you worked hard studying for an exam, then it will show. If a person has a learning disability, it is very possible that they put out a lot of effort into studying for an exam, but still fail."
"You will always have success in life when you try and use effort to the best of your ability. Anyone can accomplish anything for one simple reason: It's not how good you are, its how bad you want it! There are no failures in life only minor setbacks. When setbacks happen you reevaluate your position and get new ideas to tackle the problem."
"Without the effort the possibility of success would be slim. During failure, maybe not enough effort was put forth."
"The more effort you put into a task the more likely you will be successful. The least amount of effort hinders the ability to be successful and results in failure."
"If someone makes no effort to do something, then they will not be a success, no matter how much ability they have. If no effort is put forth, failure is almost inevitable."
"If failure occurs, development is inhibited."

Table 3 Conceptualizations of Effort and Ability According to Theoretical Distinction Levels

High Performers

	Exam Performance	Effort/Ability Distinction Levels (Nicholls, 1978, 1990)
Subject #16	94%	Level 4
Subject #17	97%	Level 3(effort can increase ability)
Subject #27	93%	Level 2 (no mention of ability)
Subject #28	92%	Level 4
Subject #35	96%	Level 4
Subject #37	97%	Level 4
Subject #41	98%	Level 4
Subject #69	93%	Level 4
Subject #74	96%	Level 4
Subject #80	98%	Level 4

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Low Performers

	Exam Performance	Effort/Ability Distinction Levels (Nicholls, 1978, 1990)
Subject #04	57%	Level 2 (no mention of ability)
Subject #08	71%	Level 1
Subject #23	64%	Level 3
Subject #25	73%	Level 2 (ability to use effort)
Subject #34	54%	Level 3
Subject #52	54%	Level 3
Subject #57	61%	Level 2 (no mention of ability)
Subject #68	72%	Level 2 (no mention of ability)
Subject #73	63%	Level 2 (no mention of ability)
Subject #75	65%	Level 4 (joint relationship)

Table 4: Descriptive Word Count Data for High/Low Academic Performers

High Performers

	Exam Performance	Item 1 Words	Item 2 Words	Item 3 Words	Total Words
Subject #16	94%	53	49	12	114
Subject #17	97%	56	31	32	119
Subject #27	93%	39	18	12	69
Subject #28	92%	48	43	33	124
Subject #35	96%	45	43	40	128
Subject #37	97%	20	21	19	60
Subject #41	98%	50	52	32	134
Subject #69	93%	56	36	25	117
Subject #74	96%	46	30	18	94
Subject #80	98%	44	25	04	73
	$\bar{X}$=	45.7	34.8	22.7	103.2
	sd=	10.53	11.74	11.54	27.05

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Low Performers

	Exam Performance	Item 1 Words	Item 2 Words	Item 3 Words	Total Words
Subject #04	57%	18	23	23	64
Subject #08	71%	48	37	15	100
Subject #23	64%	34	09	08	51
Subject #25	73%	22	20	28	70
Subject #34	54%	27	23	26	76
Subject #52	54%	66	39	26	131
Subject #57	61%	47	16	13	76
Subject #68	72%	18	12	20	50
Subject #73	63%	47	19	15	81
Subject #75	65%	39	29	27	95
	$\bar{X}$=	36.6	22.7	20.1	79.4
	sd=	15.71	9.88	6.97	24.39

Note: These are word counts for free responses to the following questions:
#1 Define the concept of effort.
#2 How is effort related to ability when the outcome is success?
#3 How is effort related to ability when the outcome is failure?

Figure 1

Ability/Effort Distinctions
(Nicholls, 1978, 1990)

Level 1: Effort or outcome is ability.
Effort and outcome are not distinguished as cause and effect.
Student equates effort and outcome as ability.
Student is unable to differentiate between ability, effort, and outcomes.
Success means that you tried hard and that you are able.
Students who try harder are smarter.
If you tried hard but did not do as well as others, you are still smarter than someone who did not try as hard.

Level 2: Effort is the Cause of outcomes.
Effort and outcome are distinguishable as cause and effect.
Students begin to differentiate effort and outcome.
Students expect effort and outcome to covary positively with individuals who try harder being more successful than those who don't try as hard.
If individuals try equally hard, then they should receive equal outcomes, regardless of ability.
When they have equal outcomes but unequal effort, students explain by noting that the individual who worked less hard but had an equal outcome must have compensated by working really hard for awhile; those who worked harder must have misapplied their effort (worked hard and quickly but made mistakes).
The concept of ability is **not** used.

Level 3: Effort and ability are partially differentiated.
The concept of ability is used intermittently.
Students begin to differentiate effort and ability and believe that students who try less hard but have equal outcomes must be smarter or better.
However, students at this level do **not** systematically follow this differentiation and still may claim that students who try equally hard may achieve the same outcome, regardless of ability.

Level 4: Ability is capacity.
Student recognizes the conception of ability as capacity, and effort and ability are clearly differentiated.
Low ability can limit the effect of high effort on the outcome, and high ability combined with high effort can readily increase performance. Ability and effort are separate and can covary.
Ability level acts as a capacity limitation and can constrain effort.
If ability is low, there is some limit to outcome, regardless of effort level.
If outcome is equal, then lower effort implies higher ability.
Ability is correctly inferred from effort and outcome, and outcomes are seen as determined jointly by effort and ability.